REPORT RESUMES

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DEMONSTRATION OF A NONGRADED PLAN OF AN ELEMENTARY SCHOOL, UTILIZING TEAM TEACHING AND PROGRAMED INSTRUCTION TO FACILITATE LEARNING IN READING AND MATHEMATICS.
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A SUMMER PROGRAM WAS CONDUCTED TO SERVE AS A MODEL FOR EDUCATORS WHOSE INTEREST LAY IN THE DEVELOPMENT OF A NONGRADED ELEMENTARY SCHOOL PROGRAM. EDUCATORS FROM APPROXIMATELY 35 PUBLIC SCHOOL SYSTEMS WERE INVITED TO OBSERVE THE PROGRAM. THE SCHOOL CONSISTED OF 80 CHILDREN 6 TO 12 YEARS OLD, AND A GROUP OF 20 CHILDREN 5 YEARS OLD. THE EMPHASIS WAS PLACED ON READING AND MATHEMATICS, WITH ADDITIONAL ACTIVITIES INCLUDING SPANISH, RHYTHMS, LISTENING SKILLS, AND RECREATION. QUESTIONNAIRES, ACHIEVEMENT TESTS, AND INTERVIEWS WERE THE MEASUREMENT PROCEDURES EMPLOYED. THE CONCLUSIONS INDICATED THAT THE PROGRAM WAS GENERALLY A SUCCESS. THE NEED OF MATERIALS TO MEET STUDENT DEMANDS WAS BELIEVED TO BE MOST CRUCIAL FOR DEVELOPING SUCH A PROGRAM. (RS)

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William Paul Lewis

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Troy State College

Troy, Alabama

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William Paul Lewis

INTRODUCTION

Background

The Troy State College Laboratory School, like most elementary schools, has classified and enrolled its pupils by grades. The work of a grade, a year of progress, and a chronological year in a child's life have been considered to be synonymous for school purposes. Following this premise, the elementary education program has been viewed in a time dimension of six grade units of equal length. Textbooks, courses of study, and teacher-parent expectations have traditionally conditioned and reinforced this concept of grade units.

This practice of placing students in grades has, of course, been increasingly questioned in the light of data brought forth in numerous studies of mental abilities and readiness. In the typical first grade, there is apparently a spread of at least four years in pupil readiness to learn. As the learners progress through the grades, the span in readiness to learn widens. As a result, the first grade teacher and the fourth grade teacher, in spite of his specific designation, is working with learners who vary a minimum of four to six years in mental age, physical development, social and emotional growth, and academic achievement.

The Laboratory School staff has for many years observed the principle of individual differences and has attempted to meet individual needs within the self-contained classroom. In applying the principle of individual differences to reporting and promotional practices, grouping, selection of materials, methods of teaching, parent relations, and curriculum patterns, the staff had become aware of some impairment of a continuous progress in learning by the conventional graded structure.

A study of several plans of organization of the elementary school pointed to the fact that the ungraded, continuous progress plan may offer a better opportunity for more flexible learner grouping and an unbroken learning continuum. The terms "nongraded" and "ungraded" will be used interchangeably in this report as they appear to be synonymous in the related literature.

Related Research

In reviewing reports of research that have been carried on in the field of education during the last three or four decades, the staff found a surprisingly small amount of this research to be related to elementary school organizational planning.

Although much effort has been expended in attempting to improve elementary education through school organization, systematic evaluations of the effectiveness of such plans are for the most part lacking.

Dr. Frank R. Dufay, a well-known proponent of the nongraded school, in his book Ungrading the Elementary School (1966) states that most evaluations of nongraded schools have been made subjectively. He has no quarrel with this subjectivity, as he notes many intangible factors in a school program that are not subject to standardized tests now available. Where such tests are used, they are applied primarily to measure achievement in areas such as mathematics and reading.

The 1960 edition of the Encyclopedia of Educational Research indicates that there has been an increasing interest in de-emphasizing grade demarcations in both the elementary and the secondary schools. Several nongraded school programs are briefly described in this publication.

John I Goodlad and Robert Anderson have conducted a comprehensive study of the ungraded elementary school. A report of their survey (1955) indicates that most of the nongraded elementary schools were begun between 1949 and 1950. They included among these nongraded schools any that had been organized to reduce the number of grades from the traditional six or eight by combining two or more of these grades. They found that there were several hundred nongraded schools operating in from forty to fifty communities in the United States during the 1957-58 school year.

Two surveys of nongraded schools made by Austen Kent (1957) and John I. Goodlad (1955) reported that the ungraded plan of organization was more beneficial for the learner in that it reduced tensions in the learners; increased teacher awareness of the learners individuality; and from the increased involvement of the community in the change process, increased parental understanding of the school.

Objectives

The primary purpose of this project was to demonstrate the operation of a nongraded school to undergraduate and graduate teacher education students, and to in-service teachers, supervisors, and administrators in the service area of Troy State College (Southeast Alabama and Northwest Florida). To effectively achieve this purpose, it was proposed to demonstrate the following educational techniques in relation to the nongraded type of school operation:

1. Some uses of test data and observational data in the organization of groups of children for learning in mathematics and reading.

2. Some techniques of working with parents in making the change from the graded to a nongraded elementary school. These included:
    a. the techniques of small group conferences
    b. the individual conferences
    c. the panel large group conferences with parents
3. Some uses of programed materials in mathematics and reading with learners ages 5-12.
4. Some techniques utilized by teams of teachers in determining:
    a. a sequence of mathematics concepts to be developed with the learners
    b. some skills and understandings in reading to be developed with the learners
    c. some experiences to be employed in developing learnings in mathematics and reading
5. Some techniques of record keeping necessary to a nongraded school.
6. Some methods of evaluating learner progress in a nongraded school.

In addition to these goals, the program was set up to provide some varied experiences in speech, listening, rhythms, and Spanish.

METHOD

The Director of the Laboratory School worked with the six classroom teachers and the librarian in developing an organizational plan that might better facilitate the learning of children ages 5-12. These meetings began in August of 1965 and involved over 210 hours of work sessions from that time through the first two weeks of June. The Director summarized these meetings with a report from which the following excerpts were taken.

"These meetings included such activities as evaluating the Laboratory School program; reviewing the purposes of the school; studying research in the field of school organization; and consulting with Dr. Robert Anderson, Harvard University; Dr. Willard Goslin, George Peabody College for Teachers; Dr. Laura Newell, Auburn University; and Dr. Frank Dufay, Principal, Plainview Elementary School, Plainview, New York. The latter conference was held through the use of a tele-conference phone arrangement. As a result of these activities, the staff planned a nine week summer session organized on a continuous progress plan utilizing team teaching, programed materials, large group, small group and individual instruction techniques to facilitate the learning of children. A maximum of 100 children would be enrolled in the school with four teachers and the librarian staffing the program. One teacher will be attending the Troy State College graduate school and the other will be on maternity leave.

"In assessing the activities in which the total staff has been involved for ten months, the following strengths and weaknesses seem to be evident.

"Strengths:

1. Problems identified by total staff.
2. Cooperative effort made in solving problems
    a. identifying purposes
    b. organizing for study (willingness to assume responsibility)
    c. willingness to share individual budget money for whole school effort
    d. elimination of such words as "me and mine" and substituting "we and our"
    e. willingness to share materials
    f. leadership role emerged as different tasks were identified (use of specific talents of staff -- identified by staff rather than principal)
    g. calling of staff meetings by individual staff members when needed (many long hours)
    h. willingness to use vacation time to complete plans for summer session. (no extra pay -- could have earned $15 per day in Troy City In-Service Program)

    i. understanding of the total program of the Laboratory School gained by working closely with individual staff members
    j. understanding of teachers by teachers -- recognizing strengths and weaknesses of each other
    k. recognizing that significant change is not easily made -- successes and failures are involved
    l. devising techniques to meet staff needs as well as children's needs
    m. creation of teacher guides for mathematics and reading
3. Cooperation of staff and parents.
4. Response from in-service personnel to observe in the Laboratory School -- 89 requests as of June 13.

"Problems:

1. Staff personalities -- reconciling differences in points of view of several staff members who have been accustomed to functioning as relatively independent individuals rather than as members of a team.
2. Space -- Laboratory School does not have movable partitions but will use auditorium.
3. Time -- for staff to plan.
4. Materials -- selection and purchasing -- time limited for activity."

In January, 1966, enrollment applications (See Appendix A) were sent to all parents of children in the Laboratory School and to parents of five-year olds who had older children in the Laboratory School. Applications were also sent to the parents of children in the two private play schools located in Troy, Alabama. Inasmuch as there were more than 100 applications returned, the final selection was made on the basis of the first 80 received for 6 to 12 year olds and 20 for 5 year olds.

A group of 100 children ranging in ages 5-12 years registered to attend the Troy State College Laboratory School during the summer of 1966 for nine weeks. Twenty of these were pre-school children and all but one of the others were enrollees of the Laboratory School. All 100 enrolled in the Laboratory School the fall of 1966. An analysis of mental maturity data, achievement data, and sociometric data plus the teachers' observational information indicated the usual wide range of performance within each child and among the group.

The Laboratory School was organized on a nongraded basis for the summer of 1966 by utilizing team teaching, programed materials, large group, small group, and individual instruction techniques.

The parents of the children in the nongraded school participated in one conference with the staff during the month of April, 1966. The purpose of this conference was to develop an understanding by the parents of the purposes and procedures of the nongraded school. The staff team had planned for three parent conferences, but felt that only one conference was needed since the parents responded so favorably to the planned organizational change. This positive response may have been due in part to the policy of the school staff to include parents in the planning and execution of all school activities. They visit the school often and frequently participate in small group, large group, and regularly scheduled individual conferences with teachers. The final decision to emphasize mathematics and reading in the summer program was arrived at in this meeting. It was apparent that the children, as well as the adults involved, were especially interested in these two areas of study.

To determine the ability level of each learner, the California Mental Maturity tests were administered to the 100 registrants in May, 1966. California Achievement tests were administered to pupils of ages 6-12 in May, 1966, and August, 1966. The Lee Clark Reading Readiness tests were administered to 5 year olds in May and August. A sociometric test was administered to all children ages 6-12 in May, July, and August, 1966.

The collected data was recorded on a pupil profile card to be used by the staff for grouping and instructional purposes.

The test data provided a basis for grouping in the initial stages of the plan. The staff soon recognized that test data alone is not sufficient for grouping children effectively. Teacher understanding of the individual child based on anecdotal material, personal data forms, and individual conferences with children, teachers, and parents proved to be most significant in planning for individual learners.

A developmental sequence of understandings and skills in reading and mathematics was developed and used by the staff in planning the experiences. The creation of scope and sequence charts by the staff team provided an opportunity for them to cooperate in looking at learning in terms of the individual rather than in terms of ages or grades. Staff members found it easy to work with individual children of different ages and backgrounds when they considered the developmental sequence of the skill being learned rather than the "grade" in which the child had previously worked. The guides apparently aided the teachers in providing for an unbroken learning continuum.

Programed materials including The Greater Cleveland Mathematics Program, Hayes Modern Mathematics books, Science Research Associates reading programs, and Craig Readers with accompanying programs were used in addition to basic readers, library materials, filmstrips, and the recordings.

A team of three teachers worked with the group of 80 children, ages 6-12, in the mathematics and reading laboratories. The learning experiences were cooperatively planned and executed by the staff team. Each child began his learning activities at levels determined by the staff on the basis of test data and their personal assessments. The pupils then progressed to each succeeding level as rapidly as seemed appropriate by the staff team.

In order to vary the activities of the learners, one part of the day was devoted to music, speech, and Spanish. One teacher was responsible for the learning experiences in Spanish; another was responsible for speech, and a third teacher was responsible for the learning experiences in rhythms and listening. The fourth teacher was responsible for the twenty 5 year olds for most of their learning experiences. The program schedule is shown on the following page.

PROGRAM SCHEDULE

June 13 - August 16, 1966

<table>
<tr><th>*8:00-12:00</th><th>Time</th><th>Experience</th><th>Experience</th><th>Experience</th></tr>
<tr><td rowspan="5">HOME BASE
5 year olds</td><td>8:00
8:30</td><td>HOME BASE
6-7 year olds
1 teacher</td><td>HOME BASE
8-9 year olds
1 teacher</td><td>HOME BASE
10-11 year olds
1 teacher</td></tr>
<tr><td>8:30
9:30</td><td colspan="3">Math Laboratory
80 children
3 teachers
Auditorium</td></tr>
<tr><td>9:30
10:15</td><td>HOME BASE
Milk-bathroom-play
1 teacher
Fifth Grade Room</td><td>HOME BASE
Bathroom-milk-play
1 teacher
Fourth Grade Room</td><td>HOME BASE
Play-bathroom-milk
1 teacher
Sixth Grade Room</td></tr>
<tr><td>10:15
11:30</td><td colspan="3">Reading Laboratory
80 children
3 teachers
Auditorium</td></tr>
<tr><td>11:30
12:00</td><td colspan="3"><table>
<tr><th>Monday</th><th>Tuesday</th><th>Wednesday</th><th>Thursday</th><th>Friday</th></tr>
<tr><td>Spanish
(6-7)
Speech
(8-9)
Rhythms
(10-11)
Listening</td><td>Spanish
(8-9)
Speech
(10-11)
Rhythms
(6-7)
Listening</td><td>Open
Assembly</td><td>Spanish
(10-11)
Speech
(6-7)
Rhythms
(8-9)
Listening</td><td>Large
Group
Activity</td></tr>
</table></td></tr>
</table>

* 8:00 - 12:00 20 Pre-school children will be moved into Mathematics and Reading Laboratory when identified as ready for this experience. Readiness experiences will be provided in mathematics and reading before this movement.

Requests to observe a nongraded elementary school in operation were received from in-service and pre-service personnel. In-service personnel evidenced special interest in observing reading and mathematics programs in operation.

Invitations to visit the Laboratory School for observation were issued to:

a. Troy State College education classes -- graduate and undergraduate
b. principals in the service area
c. teachers in the service area
d. supervisors in the service area
e. curriculum coordinators

A copy of the letter of invitation has been placed in Appendix B.

Observations were scheduled during the mornings and conferences with the staff were held in the afternoon in order to aid the observer in interpreting the observation. A copy of the observation request form has been placed in Appendix C.

A one-day conference was held on the Troy State campus during the month of August in which Dr. Frank R. Dufay, author of a book and several articles on nongraded schools, worked with the staff and observers. Fifty-five people including in-service teachers, student teachers, principals, and supervisors attended this meeting. The morning was devoted to observation of teachers and learners at work while the afternoon was devoted to a discussion of the nongraded school. Dr. Dufay led this discussion.

The above designed plan seemed to be extremely effective in meeting the objective of providing a demonstration project of a nongraded elementary school. The students with parental permission for participation in a learning environment of this type was available. Contact with in-service and pre-service personnel was already in existence which provided an abundant source of observers. The records show that there were 251 observers in the Laboratory School during the summer session. Of these, 155 were in-service teachers from 22 school systems. The other 61 were undergraduate and graduate students at Troy State College.

RESULTS

The present study was demonstrational rather than experimental. Most of the information obtained was categorized and tabulated instead of being treated by means of inferential statistics. However, data obtained from the Reading and Arithmetic sections of the California Achievement Tests (CAT) and certain items of the pupil questionnaire were subjected to statistical treatment.

Four major sources of information about the continuous progress program were utilized, viz., pupils, parents, participating teachers, and professional educational observers. Pupils were administered the Reading and the Arithmetic subtests of the CAT at the beginning (May, 1966) and at the end (August, 1966) of the program. A specially designed questionnaire (See Appendix D) consisting of thirty-four items dealing with various aspects of the program was administered to the children during the last week of the program in August. Participating teachers (See Appendix E) and parents (See Appendix F) of the children in the program also responded at the end of the program to questionnaires designed especially for them. A form (See Appendix G) requiring short evaluations of major aspects of the program was responded to by observers from a number of school systems.

Pupil Data

Significance of changes in Reading and Arithmetic scores was assessed by applying t-tests to differences between pre- and posttests for correlated data. As can be seen in Table 1,

Table 1.

Tests of Significance of Difference between Pre- and Posttests on the Reading and Arithmetic Sections of the California Achievement Tests

	Reading			Arithmetic		
	(May) Pre		(August) Post	(May) Pre		(August) Post
$\bar{X}$	4.436		4.398	4.521		4.626
s	1.992		1.997	1.918		1.942
SE	0.311		0.311	0.299		0.303
$s_{\bar{x}_1-\bar{x}_2}$		.324			.076	
r		.956			.968	
t		.117			1.381	

there was no significant change in performance despite the observed loss of about 0.7 month in Reading and a gain of about 1.05 months in Arithmetic. These changes were therefore ascribed to the operation of chance factors rather than to the reflection of a program-derived influence.

Pupil questionnaire data were dichotomized according to whether the response to item content was positive or negative, a positive response presuming to indicate that the content described the respondents' attitudes toward the aspect of the program dealt with and a negative response to indicate the obverse. Chi square was applied to test for independence of sex and nature of response to each of the items. Boys and girls were found to differ significantly in five of the thirty-four items, as shown in Table 2. Findings relative to Item 7 (Do you like to play games with girls?) and Item 30 (Do you like to play games with boys?) showed negative attitudes toward the opposite sex. These two items were included as the playground activities were organized to emphasize games involving the participation of boys and girls together. Analysis of responses to Item 1 (If you come back to school next summer, would you like school to be like it was this summer?) indicates

Table 2.

Pupil Questionnaire on Which
Boys' and Girls' Responses Differ Significantly

Questionnaire Item	Boys N=30 Y*		Girls N=31 Y*		Chi Square	P
	Y*	N*	Y*	N*		
1. If you come back to school next summer, would you like school to be like it was this summer?	14	16	25	6	7.194	.01
7. Do you like to play games with girls?	9	21	29	2	27.943	.001
9. Do you like the length of the stories in the SRA stories?	26	4	31	0	4.550	.05
13. Have you enjoyed school this summer?	24	6	30	1	5.829	.05
30. Do you like to play games with boys?	28	2	9	22	27.522	.001

*Y = yes; *N = no.

that girls significantly more often than boys expressed favorable attitudes toward continuation of the program as conducted during the summer session. Item 9 (Do you like the length of the SRA stories?) indicated that the girls like the length of the stories more than did the boys. A follow-up study in September indicates that 36 percent of the boys would have preferred longer stories and 16 percent would prefer shorter ones; none of the girls would prefer shorter stories and only 12 percent would prefer longer ones. The girls also expressed a more favorable general attitude toward summer school (Item 13: Have you enjoyed school this summer?). No other significant differences between the sexes were found on questionnaire items.

Pupils were then divided into two age groups, disregarding sex. Group 1 consisted of children six to nine years of age. Group 2 contained ten- through twelve-year-olds. Phi coefficients were computed between two dichotomized variables, age and nature of response (i.e., positive/negative). The significance of each coefficient was tested by means of chi square (chi square equals the number of cases multiplied times the square of phi). The relationship between age and response was found to be significant in the case of nine questionnaire items: 3, 10, 20, 21, 22, 25, 30, 32, and 34 (See Table 3).

Table 3.

Significance of Differences between Age-Groups in Responses to Certain Questionnaire Items

Item	Group 1* (N=41)		Group 2* (N=20)		Phi	Chi Square Test	P
	Y**	N**	Y	N			
3	40	1	16	4	.30	5.49	.05
10	31	10	9	11	.30	5.49	.05
20	14	27	2	18	.26	4.12	.05
21	41	0	16	4	.38	8.81	.01
22	13	28	1	19	.30	5.49	.05
25	14	27	14	6	.34	7.05	.01
30	21	20	16	4	.28	4.78	.05
32	19	22	1	19	.41	10.25	.01
34	12	29	0	20	.35	7.47	.01

*Group 1 consists of 6-9 year-olds; Group 2 of 10-12 year-olds.
**Y = yes; **N = no.

Younger children (6-9) showed significantly more frequent preference than the older (10-12) on the following: (1) being allowed to take the initiative in choosing activities to engage in, (2) having more than one teacher in the classroom at any given time, and (3) liking the SRA reader. Older children significantly more often expressed preferences for the following: (1) being permitted to work at their own rate in reading and arithmetic and (2) going to something new once a task is mastered. Older pupils also appeared to experience less difficulty in deciding upon what task to initiate next or determining the next step in a sequence of activities in home base and in reading laboratory. In light of the responses to Items 7 and 30 (See Table 2), the significantly more favorable attitude toward playing with boys on the part of children in Group 2 is probably an artifact by virtue of the presence of more than twice as many boys as girls in Group 2 and nearly twice as many girls as boys in Group 1.

In Table 4 are shown percentages of positive and negative responses to each of the Pupil Questionnaire items according to sex. Table 5 contains percentages of positive and negative responses by all pupils to each of the items disregarding sex and age. The percentages recorded in these tables suggest that, for the most part, the children's attitudes toward the various aspects of the program were favorable.

Table 4.

Percentages of Positive and Negative Responses According to Pupil Questionnaire Items

Item	Boys(N=30)		Girls(N=31)		Item	Boys(N=30)		Girls(N=31)	
	Yes	No	Yes	No		Yes	No	Yes	No
1	47	53	81	19	18	90	10	87	13
2	97	3	94	6	19	50	50	55	45
3	93	7	90	10	20	27	73	26	74
4	33	67	16	84	21	90	10	97	3
5	10	90	16	84	22	27	73	19	81
6	87	13	87	13	23	73	27	87	13
7	30	70	94	6	24	77	23	74	26
8	77	23	71	29	25	40	60	52	48
9	87	13	100	0	26	43	57	39	61
10	57	43	74	26	27	93	7	94	6
11	23	77	39	61	28	87	13	87	13
12	90	10	97	3	29	90	10	97	3
13	80	20	97	3	30	93	7	29	71
14	10	90	19	81	31	60	40	61	39
15	90	10	94	6	32	30	70	35	65
16	80	20	77	23	33	10	90	22	78
17	93	7	97	3	34	13	87	26	74

Table 5.

Percentage of Positive and Negative Responses to Pupil Questionnaire Items Disregarding Sex and Age

	Response			Response	
Item	Yes	No	Item	Yes	No
1	64	36	18	88	12
2	95	5	19	52	48
3	92	8	20	26	74
4	24	76	21	93	7
5	13	87	22	23	77
6	87	13	23	80	20
7	62	38	24	75	25
8	74	26	25	46	54
9	93	7	26	41	59
10	66	34	27	93	7
11	31	69	28	87	13
12	93	7	29	93	7
13	88	12	30	61	39
14	15	85	31	61	39
15	92	8	32	33	77
16	79	21	33	16	84
17	95	5	34	20	80

Teacher Questionnaire

Information obtained by means of the Teacher Questionnaire was merely tabulated since there were only three teachers who were so intimately involved in virtually all aspects of the program that they were able to respond to all questionnaire items. Forty-two of the 64 items were so constructed that the teachers could evaluate the program in terms of item content by marking a point on a seven-point scale (See Appendix E). Use of the scale is described in the instructions of the questionnaire. After the teachers' judgments on each item were tallied, the algebraic sum of values chosen by the three teachers was obtained. The sums were then classified in five categories. A sum of 8-9 was placed in Category I, representing the highest degree to which the item described the aspect of the program with which the item dealt. A sum of 6-7 constituted Category II; 4-5, Category III; 2-3, Category IV; and 0-1, Category V. Examination of Table 6 and the Teacher Questionnaire in the Appendix reveals teachers' categorized judgments according to item.

Table 6.

Categorized Teacher Judgments of Extent to which Item Describes Aspect of Program Dealt with in the Class

Category	Item Number														
I	8	10	14	15	22	24	27	33	39	40					
II	2	4	5	7	9	11	17	18	23	26	29	31	32	34	63
III	1	3	6	19	21	25	28	30	36	37	64				
IV	12	13	20	35	38										
V	16														

Parent Questionnaire

Table 7 contains percentages of positive and negative responses of parents to the first twenty-one items of the Parent Questionnaire. Positive responses were assumed to be indicative of favorable, and negative responses unfavorable, attitudes expressed by children as judged by parents, or attitudes as expressed by parents themselves, toward various aspects of the program. As can be seen in Table 7, parental evaluation of children's attitudes and judgments of the overall program was generally good. One notable exception was parents' evaluation of the usefulness of large-group parent

Table 7.

Percentage of Positive, Negative, and No Response According to Items on Parent Questionnaire

(N = 47)

	% Response				% Response				% Response		
Item	+*	-*	0*	Item	+	-	0	Item	+	-	0
1	93.6	6.4	0	8	78.7	17.0	4.2	15	83.0	14.9	2.1
2	97.9	2.1	0	9	97.9	0	2.1	16	78.7	14.9	6.4
3	97.9	2.1	0	10	100.0	0	0	17	95.7	2.1	2.1
4	91.5	0	8.5	11	97.9	2.1	0	18	72.3	21.3	6.4
5	95.7	4.2	0	12	95.7	4.2	0	19	44.7	51.1	4.2
6	80.8	17.0	2.1	13	74.5	23.4	2.1	20	93.6	2.1	4.2
7	74.5	19.1	6.4	14	95.7	4.2	0	21	89.4	0	10.6

*+ = favorable; *1 = unfavorable; *0 = no response.

conferences with teachers. Slightly more than half the parents considered such conferences of little use in attempting to meet the needs of their children. Approximately 96 percent of the parents judged individual parent conferences on the other hand as serving usefully in meeting children's needs. This judgment is in close agreement with that of the three participating teachers. It is reasonable to assume that both parents and teachers judged usefulness of individual, small-group, and large-group conferences as being a function of the purposes of the conferences.

Observer Reactions

During the summer, 155 professional people observed the program and 87 responded to the questionnaire shown in Appendix G.

The failure to receive responses from almost one-half of the observers was due in part to the procedure of asking them to mail their completed questionnaires. It would have been more effective if time had been allowed for them to complete these forms before leaving the school.

Each of the responses was placed in one of eight categories representing six major aspects of the program, one miscellaneous, and one "no response" category. Some responses, perhaps, could be placed in more than one category and some responses were not very clear. The final allocation of the responses to the various categories, however, was reviewed by at least three analysts. The total responses are presented in the "Discussion" section. The following are the most frequent responses in each of the categories excepting that those categories are omitted for which there were less than four similar responses. The number of responses are noted in parentheses.

I. Interage Grouping
  1. Advantages:
    A. Individualized instruction
      Children progress at their own rate (32)
    B. Learning principles and situation
      Good social and working situation (6)
    C. Motivation
      Stimulates interest (9)
    D. Independence of action
      Independence was useful (6)
    E. Materials
      (Less than 4 similar responses)
    F. Interpersonal relationships
      Children are cooperative (4)
    G. Miscellany
      (Less than 4 similar responses)
    H. No response
      (Less than 4 similar responses)
  2. Disadvantages:
    A. Individualized instruction
      Differing sizes, physical and emotional maturity of the children (5)
    B. Learning principles and situation
      (Less than 4 similar responses)
    C. Motivation
      (Less than 4 similar responses)
    D. Independence of action
      (Less than 4 similar responses)
    E. Materials
      (No responses)
    F. Interpersonal relationships
      (Less than 4 similar responses)
    G. Miscellany
      I see no disadvantage (8)
    H. No response (30)

- II. Techniques of Individualization
    - 1. Advantages:
        - A. Individualized instruction
            - 1. Children progress at their own rate (31)
            - 2. Children receive more individual attention (29)
        - B. Learning principles and situation
            - (Less than 4 similar responses)
        - C. Motivation
            - Increased interest (5)
        - D. Independence of action
            - Self-direction (15)
        - E. Materials
            - (Less than 4 similar responses)
        - F. Interpersonal relationships
            - (Less than 4 similar responses)
        - G. Miscellany
            - (No responses)
        - H. No response (4)
    - 2. Disadvantages:
        - A. Individualized instruction
            - Not enough time for individual attention (8)
        - B. Learning principles and situation
            - Too little group interaction (10)
        - C. Motivation
            - (Less than 4 similar responses)
        - D. Independence of action
            - (Less than 4 similar responses)
        - E. Materials
            - (Less than 4 similar responses)
        - F. Interpersonal relationships
            - (No responses)
        - G. Miscellany
            - 1. No responses (38)
            - 2. No disadvantages (5)
        - H. No response (35)

- III. Programed Materials
    - 1. Advantages:
        - A. Individualized instruction
            - Child can progress at his own rate and/ or level (25)
        - B. Learning principles and situation
            - Provides varied program (7)
        - C. Motivation
            - Suited to or fosters interest (12)
        - D. Independence of action
            - Children become independent workers (5)
        - E. Materials
            - Materials observed were well-selected and arranged (4)
        - F. Interpersonal relationships
            - (Less than 4 similar responses)

- G. Miscellany
  - (Less than 4 similar responses)
- H. No response (6)

2. Disadvantages:
   - A. Individualized instruction
     - (Less than 4 similar responses)
   - B. Learning principles and situation
     - Reduces discussion (4)
   - C. Motivation
     - (Less than 4 similar responses)
   - D. Independence of action
     - (Less than 4 similar responses)
   - E. Materials
     - (Less than 4 similar responses)
   - F. Interpersonal relationships
     - (No responses)
   - G. Miscellany
     - (Less than 4 similar responses)
   - H. No response (47)

IV. Team Teaching

1. Advantages:
   - A. Individualized instruction
     - Care for individual differences (9)
   - B. Learning principles and situation
     - Teachers share ideas and techniques (15)
   - C. Motivation
     - (Less than 4 similar responses)
   - D. Independence of action
     - (No responses)
   - E. Materials
     - Materials can be shared (4)
   - F. Interpersonal relationships
     - (No responses)
   - G. Miscellany
     - (No responses)
   - H. No response (7)
2. Disadvantages:
   - A. Individualized instruction
     - (Less than 4 similar responses)
   - B. Learning principles and situation
     1. Insufficient time for group planning (5)
     2. Confusion in the classroom (5)
   - C. Motivation
     - (No responses)
   - D. Independence of action
     - (No responses)
   - E. Materials
     - (No responses)
   - F. Interpersonal relationships
     - (Less than 4 similar responses)

G. Miscellany

No disadvantages observed (5)

H. No response (46)

Consultant's Evaluation

Dr. Frank R. Dufay, a specialist in nongrading procedure, provided the staff with evaluations of various aspects of the program based upon his examination of the program in action. Among the observations he made were: (1) children progressed at their own rate, (2) materials were varied and of high quality, (3) pupils worked independently and purposefully, (4) continuous evaluations by teachers of on-going activities and analyses of teacher roles and pupil reactions were effected, and (5) continuous planning was conducted.

Dufay further stated that "The nongraded school ought to foster individualized programs which bring each pupil self-fulfillment to a large degree." He indicated that, in his judgment, the Laboratory School had achieved this goal. His general impression was that the program had been a success and that the Laboratory School was providing leadership for the schools in the area in actualizing the nongrading viewpoint.

DISCUSSION

Teacher Questionnaire (Reference: Table 6 and Appendix E)

(Item 16: Were consultants used to best advantage in the accomplishment of nongrading?)

Effective use of consultants was assigned neither a positive nor a negative value by two of the three teachers because consultative services prior to and during the program were rather limited. There were talks presented to the teachers concerning nongrading philosophy and practice before the program began, but most specialists' support of the program was taken from the writings of experts. During the last week of the summer session, a specialist, who had been delayed about two weeks by transportation difficulties, came to the Laboratory School, observed the program in action, and offered his evaluations of the program in meetings with the staff and other persons associated with the program.

(Item 41: Rank the following in descending order of effectiveness in their contribution to improved management of the child in his learning environment. Place the number "1" in the space to the left of the letter designating the most effective, and so on, until all have been ranked.

_____a. Individual parent conference
_____b. Small group parent conference
_____c. Large group parent conference.)

Two teachers agreed in their ranking of the effectiveness of parent conferences in contributing to improved management of the child in his learning environment. Individual parent conferences were ranked first in effectiveness, small-group parent conferences second, and large-group conferences last. One teacher judged large-group parent conferences most effective in the context of the continuous progress summer program, the reason being that general information about the program had to be exchanged between parents and teachers in an effort to effect the transition from the graded to the nongraded situation. For working with problems of the individual child, all teachers were in agreement as to the superiority of individual parent-teacher conferences. These conferences were variously described as (1) making possible concentrated effort on the part of the teacher-parent team in working with problems of the individual child, (2) maintaining teacher-parent relationships on an informal basis, and (3) facilitating exchange of specific information between parent and teacher rather than resorting to broad generalities. Small-group conferences were described as being most effective when dealing with problems common to many or all children. Large-group conferences were not considered particularly useful because of their formality, impersonality, and difficulty in providing the kind of atmosphere conducive to free and candid exchange of ideas.

(Item 52: What consultative services would you add in the future to those utilized this summer in designing and executing a nongraded program?)

There was agreement among teachers that better use could have been made of consultants in planning, designing, conducting, and evaluating the nongraded program. One teacher indicated that consultants were not at all helpful, an opinion very likely based largely upon the rather limited availability of consultative services. The other two teachers referred to the usefulness of published material written by specialists in nongrading. Teachers suggested that consultants be used early in the planning stage and in the reading, social studies, and physical education areas.

(Item 49: In what ways has the learner profile card contributed to effective record keeping in a nongraded situation?)

Learner profile cards were described as contributing effectively to record keeping in the nongraded situation in that they require concise descriptions of pupil behavior, are easy to handle and convenient to use, and can be readily referred to at any time the need arises.

(Item 50: What measures of achievement would you add in the future to those used in the nongraded situation this summer?)

As to measures of achievement which might be added to those used in the program, two teachers saw no need to expand the measurement facilities. One teacher suggested that instruments be adopted which would measure significant child behavior not covered by the instruments used. There were no indications as to what the significant behavior might be.

Item 54: What advantages do programed materials have over the more traditional procedures in teaching mathematics?)

Advantages of programed materials over more traditional procedures in teaching mathematics were judged by the teachers as being (1) each child can progress at his own rate, (2) less time is wasted in over-explaining concepts, (3) steady progress is allowed, (4) a greater degree of self-evaluation is possible, (5) there is immediate evaluative feedback from the child's efforts, and (6) fear and tensions associated with the learning process are relieved somewhat.

(Item 55: What disadvantages are there in using programed materials in teaching mathematics?)

Disadvantages of programed materials listed were: (1) vocabulary of the young child is not sufficiently well developed to permit reading of instructions, (2) a child sometimes "gets lost" in moving from one step to the next, and (3) the child may misuse the materials if he is not guided carefully during the goal-setting stage of learning.

(Item 56: What advantages do programed materials have over the more traditional procedures in teaching reading?)

(Item 57: What disadvantages are there in using programed materials in teaching reading?)

Advantages and disadvantages of teaching reading by means of programed materials as proposed by the teachers were much the same as those associated with mathematics. There were, however, the following additions to the list of disadvantages: (1) the ease with which copying or changing answers may be accomplished and (2) gaps in experience with subject matter content such as the use of the apostrophe in the plural possessive form at the beginning of the second grade.

(Item 58: In descending order of effectiveness, list the mathematical skills that lend themselves most readily in the teaching-learning process to effective use of programmed materials.)

One teacher listed the following skills: (1) practicing skills already mastered and (2) attacking new computational skills with a minimum of explanation from the teacher. Another teacher listed (1) practice in the four basic arithmetic processes and (2) recognition of order of numbers. The third teacher mentioned only practice in number combinations. Mention of comprehension of numerical relations was conspicuously absent.

(Item 59: In descending order of ineffectiveness, list the mathematical skills that lend themselves least readily in the teaching-learning process to effective use of programed materials.)

Ineffectiveness of programed materials was judged by the teachers in the following: (1) working with word and story problems, (2) understanding fractions, and (3) developing a new mathematics vocabulary.

(Item 60: In descending order of effectiveness, list the reading skills that lend themselves most readily in the teaching-learning process to effective use of programed materials.)

(Item 61: In descending order of ineffectiveness, list the reading skills that lend themselves least readily in the teaching-learning process to effective use of programed materials.)

Advantages of programed reading materials were judged by the teachers as being in the (1) learning of initial and end word sounds, (2) learning of meanings of words in their contexts, (3) process of vocabulary building, (4) comprehension of complete ideas expressed in written form, and (5) use of long and short vowel sounds.

Disadvantages were in (1) the lack of interaction among pupils, (2) attacking new words, (3) learning new words from the context in which they are used, (4) learning word endings such as -ly and -ed, (5) forming words from sounds, (6) phonics, (7) syllabication, and (8) insufficient reinforcement of correct responses.

(Item 62: In the use of test and observational data in grouping children for effective learning in mathematics, arrange the following in descending order of importance by assigning the number "1" to the most important, the number "2" to the next most important, and so on until all of them have been ranked in importance: (a) Arithmetic Computation score, (b) Arithmetic Reasoning score, (c) Composite Arithmetic score, (d) teacher judgment, (e) general intelligence, and (f) sociometric data.)

The most complete agreement expressed among teachers as to the single source of information most useful in grouping children for effective learning in mathematics was on the CAT composite arithmetic score. Teacher judgment as to the level of mathematical functioning of children was put in first, second, and fourth places by the three teachers; arithmetic computation score in first, fourth, and fifth places; arithmetic reasoning, second, third, and sixth; general intelligence, fourth, fifth, and sixth; and sociometric data, third, fifth, and sixth.

Parent Questionnaire (Reference: Table 7 and Appendix F)

Items 22-26 required short answers which were to be chosen and phrased according to how the parent felt about item content. In order to reduce the number of responses reported, an effort was made to classify them into response categories in terms of the behavior and the program aspects represented. Each category heading was chosen to describe a major process, goal, or behavior associated with the summer program. Under each heading were recorded typical statements made by parents, in some cases with little or no change in wording. The total number of responses to an item is indicated approximately by the sum of responses within all categories under the item. The information obtained is as follows.

(Item 22: What are some of the educational advantages and disadvantages of using programed instructional materials in the school?)

Among the advantages mentioned by parents, and examples of each, were:

1. Individualized instruction
    a. Lets each child progress at his own rate (9)
    b. Allows for individual differences (5)
    c. Older children can progress faster (2)
    d. Cuts down on comparisons between children (1)
    e. Provides for pupils' acceptance of varying ability, maturity, and achievement of other pupils (1)
2. Learning principles and situation
    a. Provides immediate reinforcement for correct response (3)
    b. Can be used to demonstrate materials that may be difficult to grasp by means of oral communication (2)
    c. Assures planned sequences in learning (1)
    d. Assures that each child masters the necessary steps and patterns in learning (1)
    e. More active participation of the child in the learning process (1)
    f. Provides ready evaluation and diagnosis of the pupils' work (1)
3. Motivation
    a. Children seem to enjoy the materials (3)
    b. Challenges the pupil to progress further (1)
    c. Can be a motivating device for the child (1)
4. Independence of action
    a. Fosters a feeling of independence in the child (2)
    b. Reduces teacher domination (2)
    c. The child is permitted to read the material himself (2)
    d. Helps develop the child's self-confidence (1)
5. Materials
    a. Gives the child opportunities to work with more and different materials (3)
    b. More material prepared by experts in the field (1)
6. Miscellany
    a. Saves time for the teacher to be more advantageously used (4)
    b. Each child has something to do all the time (1)
    c. Poor work habits avoided (1)
7. No response (23)

Among the disadvantages of programed materials listed by the parents were:

1. Individualized instruction
    a. Younger children need more help and individual instruction (2)
    b. Less individual attention from the teacher (1)

        - c. Materials selected for the entire class may not always meet the needs of all pupils (1)
        - d. Is there opportunity for expressing creativity and individuality? (1)
    - 2. Learning principles and situation
        - a. There is no immediate feedback (2)
        - b. Does not check all areas and aspects of learning (1)
        - c. Not much group interaction (1)
        - d. May be used as a crutch -- used instead of rather than in addition to effective teaching (1)
        - e. Means might be confused with ends (1)
    - 3. Motivation
        - a. Material might become dull if used over and over (4)
        - b. May be used primarily because they are "interesting" or "entertaining" (2)
        - c. Might foster such competitiveness that the child pressures himself too much (1)
    - 4. Materials
        - a. Quality of materials varies; they should be used with discrimination (1)
        - b. The materials are only one way to do the job (1)
    - 5. Teachers
        - a. Teachers may not know how to use the materials to best advantage (1)
        - b. They leave little choice to the teacher as to teaching methods (1)
        - c. May be damaging to the teacher's role in learning (1)
        - d. May be used as "busy work" (1)
    - 6. No response (29)

(Item 23: What are some of the educational advantages and disadvantages of team teaching?)

Advantages identified by parents were:

1. Individualized instruction
    - a. Pupil
        - 1) Makes individual help possible (3)
        - 2) More help can be given the individual child while actual teaching is taking place (1)
        - 3) Fewer pupils per teacher and more individual attention (1)
        - 4) Provides opportunities for the team to approach the needs of each child and to work together to meet those needs (1)
    - b. Teacher
        - 1) Teachers' strong areas can best be utilized (4)
        - 2) Competent teachers may teach in areas they feel most secure in (1)
        - 3) Teachers have different points of view on various topics (1)
2. Learning principles and situation
    - a. Helps the child get a broader education with more than one teacher (2)
    - b. Common learning experiences in several subject areas (1)

    c. Better preparation and presentation when the work is divided (1)
3. Motivation
    a. Wider appeal to pupil interests (1)
    b. The staff must work harmoniously (1)
    c. More adaptation required of the child (1)
    d. The child has more teachers to whom he can relate (1)
4. Material
    a. Materials will be shared (1)
    b. Better preparation and utilization of materials (1)
5. Evaluation
    a. Provides more than one assessment of each pupil (1)
6. No response (19)

Disadvantages of team teaching were listed as follows:

1. Individualized instruction
    a. Monopoly of certain aspects of teaching by some teachers, perhaps the more articulate ones (1)
    b. Teachers may have personality difficulties; some teachers must be in full control (1)
    c. Lack of real consideration of teacher potentials by the administration in planning with them for their teaching (1)
    d. Might cause teachers to become less interested in the individual child (1)
    e. A large number of children in a room would not give a teacher much time to work with each child (1)
    f. May be difficult for some students to adjust to several children at a time (1)
    g. Might create emotional problems among the less secure children (1)
    h. The team cannot know the individual child's needs as well because of pupil load and less contact with the individual child (1)
2. Learning principles and situation
    a. Much more time used to plan together when you might plan on your own at your convenience (2)
    b. May confuse the child; when the team fails to operate as a team, some items may not be adequately presented (1)
    c. Might return to departmentalized teaching (1)
3. Materials
    a. Lack of space and materials (1)
4. Miscellany
    a. It depends too much on the attitudes of the teachers on the team (1)
    b. Might create problems in parent-teacher relationships (1)
5. No response (29)

(Item 24: What are some of the advantages and disadvantages of allowing your child to move through a series of educational experiences at his own rate?)

Advantages, as judged by parents:

1. Individualized instruction
   a. He doesn't have to wait on other students (5)
   b. Failure to measure up to or surpass a friend is eradicated (1)
   c. He isn't compared with others (1)
   d. Lets him develop his learning abilities without developing inhibitions (1)
2. Learning principles and situation
   a. Provides opportunities for success (2)
   b. It will help prepare them to move at their own rate with tasks of the future (2)
   c. The child doesn't waste time or energy (1)
   d. Helps the slow child not to be pushed before he is ready (1)
   e. The child is in a better position to develop good work habits (1)
3. Motivation
   a. Because he is not held back with the slowest child, his interest is higher (10)
   b. Reduces pressure (7)
   c. He doesn't feel frustrated if he can't keep up with the fastest child (3)
   d. Prevents boredom (3)
   e. Sense of progress, even for slow learners (2)
   f. His self-confidence is strengthened since competition has been removed (2)
   g. Is more challenging to the fast-working child who would otherwise have to wait for others to catch up (1)
   h. Those who are motivated and want to progress more rapidly can do so (1)
   i. Competition is high (this could get to be a disadvantage if the teacher doesn't handle it correctly) (1)
4. No response (20)

Disadvantages of being allowed to progress at the child's own rate:

1. Individualized instruction
   a. He might tend to move too rapidly (1)
   b. The child might advance beyond his age group and be at a disadvantage socially (1)
   c. Tendency to leave progress too much to the child (1)
   d. Some children need a little push to do their best (1)
   e. The child needs to learn that he has talents in some areas while another child may be talented in others (1)
   f. Only if the teacher is insecure or doesn't give individual attention (1)
2. Learning principles and situation
   a. Does he race through and not learn as thoroughly as he should? (2)
   b. Lack of group experiences so necessary in the child's development (1)

    - c. Lack of checking by the teacher on the child's progress (1)
    - d. Feeling on the teacher's part that this is the only way to teach (1)
    - e. Might not express creativity (1)
3. Motivation
    - a. The child isn't in competition with other children (2)
    - b. The pressure could be too great -- trying to keep up with the Jones' (1)
    - c. A child not easily motivated might not progress in subjects he's not interested in (1)
    - d. Competition is not always bad; it can be an incentive for the child (1)
    - e. The child might underachieve from lack of competition or motivation (1)
    - f. Parents may not understand the motives (1)
4. No response (30)

(Item 25: What are some of the advantages and disadvantages of grouping children according to interests, special abilities, and social maturity rather than chronological age?)

Advantages:

1. Individualized instruction
    - a. Recognize the uniqueness of each child (2)
    - b. Their development and maturation may not correspond to their chronological age (2)
    - c. Their individual needs are better met (1)
    - d. They work at their real ability level and this eliminates much frustration (1)
    - e. Children need to work at their own level all during school rather than spending time waiting for others (1)
2. Learning principles and situation
    - a. You will have the chance to learn more about one subject than you would if you had to discuss two or more subjects (3)
    - b. Likely to learn faster and more thoroughly (2)
    - c. Special abilities: they are able to share common experiences and progress together without hindrance (2)
    - d. Permits formation of subgroups within the larger group (2)
    - e. Teachers can concentrate on one level rather than spreading out; won't necessarily be geared to the "average"; "highs" won't be bored; "lows" won't get lost (1)
    - f. Don't develop poor work habits (1)
3. Motivation
    - a. Greater motivation would be encouraged by being placed in one's own interest group (6)
    - b. If a child is interested, he will work harder and do his best (3)
    - c. "Makes learning," to use their phrase, "fun" (2)

    - d. Boredom is not present (1)
    - e. Even the slow group has a sense of pride and accomplishment (1)
    - f. Material can be made more interesting and challenging (1)
    - g. It could cause a child to work harder to stay with his friends (1)
    - h. The child competes only with himself; therefore, no frustration (1)
    - i. The comparison between children (and their parents) which often hurts a child is lacking (1)
    - j. Develops greater interest, etc., in what one is doing (chronological age as an index may be too general to be effective) (1)
4. Independence of action
    - a. Take more responsibility (1)
5. Discipline
    - a. It should reduce discipline problems to a minimum (1)
6. No response (22)

Disadvantages:

1. Individualized instruction
    - a. The slower child might feel inferior; the faster child might feel superior (5)
    - b. Some students do not respond to group activities (2)
    - c. When more than one subject is discussed in different age groups, etc., some will not understand as much as others (2)
    - d. Could possibly place them in situations they weren't emotionally prepared for (2)
    - e. Sometimes age differences are too great to be of best interest to the child (1)
    - f. You must give children time to mature; don't rush them (1)
2. Learning principles and situation
    - a. Children need to learn to adjust to differences in people (2)
    - b. Creates stratification in the school atmosphere that should be democratic (1)
    - c. A great deal more can be done with the same age group than has been done (1)
3. Motivation
    - a. Needs to have some competition. This is life! (1)
    - b. Parents' push for their child to be in the top group; stigma attached to being in the "low" group (1)
    - c. It could cause a child, if he were falling too far behind, to lose interest altogether (1)
4. Evaluation
    - a. What criteria would be used? (1)
    - b. Interests, special abilities, and social maturity are difficult to determine (1)
5. No response (30)

(Item 26: What does your child like most -- and what does he or she like least -- about school this summer?)

Children's preferences, as judged by their parents, were ranked in first, second, and third places as below. Three to five choices mentioned most frequently are presented at each rank along with the number of times they were chosen. (Ten of the parents did not respond to the "Most" category and 25 failed to respond to the "Least" category.)

Rank One

Reading	13
Mathematics	11
Spanish	3

Rank Two

Reading	8
Music	8
Mathematics	4
Spanish	4
Physical Education	4

Rank Three

Spanish	5
Music	3
Physical Education	3

Least liked aspects of the program were ranked as follows:

Rank One

Mathematics	6

Rank Two

Physical Education	3

Rank Three

School in general	1

Observer Reactions (Reference: Page 17, Appendix G)

I. Interage Grouping
  1. Advantages:
    A. Individualized instruction
      1. Children progress at their own rate (32)
      2. There is individualized instruction (3)
      3. Opportunities for the individual to explore his abilities (1)
      4. Satisfies individual needs (1)

B. Learning principles and situation
   1. Good social and working situation (6)
   2. There is continuity of learning experience (2)
   3. Tutorial advantage of more advanced children (2)
   4. Children know what to do next (1)
   5. Atmosphere is conducive to learning (1)
   6. Experiences with different age groups (1)
   7. Large blocks of time (1)
   8. The individual contributes to the group (1)
   9. Pupil-teacher team for problem-solving (1)
   10. Narrowed ability range (1)
   11. Opportunity for broad experiences (1)
   12. Good for small groups (1)

C. Motivation
   1. Stimulates interest (9)
   2. Lowered age or grade awareness (7)
   3. Children relaxed (7)
   4. Supports feelings of security (6)
   5. Little competition among pupils (5)
   6. Reduces frustration and boredom (2)
   7. Encourages individual achievement (2)
   8. Challenging to brighter pupils (1)
   9. Increases chances for success (1)
   10. Reduces group pressure (1)
   11. Good for morale (1)

D. Independence of action
   1. Independence was useful (6)
   2. Accept responsibility (2)
   3. Take initiative (2)

E. Materials
   1. Sharing of materials (1)
   2. More materials (1)

F. Interpersonal relationships
   1. Children are cooperative (4)
   2. Good pupil-pupil relationships (2)
   3. Good teacher-pupil relationship (1)
   4. Active participation (1)
   5. Development of leadership (1)
   6. Encourages tolerance of others' inadequacies (1)

G. Miscellany
   1. Children are happy (3)
   2. Reduces discipline problems (2)
   3. No comment (2)
   4. No advantages (2)
   5. Reduces inferiority feelings (1)
   6. There is no copying (1)

H. No response (2)

2. Disadvantages:

A. Individualized instruction
   1. Differing sizes, physical and emotional maturity of the children (5)
   2. Interests and social needs are too varied, in spite of similar mentality (3)

    3. Older child might feel inferior and self-conscious (3)
    4. An hour may be too long for the younger children (2)
    5. The immature child may be lost or bewildered (2)
    6. Expect younger children to have difficulty with older children around (1)
    7. The child might not get enough individual help (1)
    8. Children of the same age tend to have same interests (1)
    9. Slower pupils gain nothing (1)
    10. May disturb the slower working pupils (1)

B. Learning principles and situation
    1. Too many pupils in one group (2)
    2. The different age groups are not mixed; they are just in the same room (2)
    3. Noise contagion (2)
    4. Time wasted telling different children the same thing (2)
    5. Too much idleness (2)
    6. Bad influence of older upon younger pupils (1)
    7. Difficult with large enrollment (1)
    8. Difficult for the teacher to assure goal achievements (1)
    9. Instability of a group (1)
    10. Not recommended for play ground activities (1)
    11. Tendency to get louder as discussion progresses (1)
    12. More time needed for explanations (1)
    13. The teacher needs more help (1)
    14. Three groups in the same room are distracting (1)
    15. Too much time wasted (1)

C. Motivation
    1. Might be undemocratic and unmotivating, especially in junior high school (1)

D. Independence of action
    1. May be insufficient initiative to progress according to ability (1)
    2. Children wait for help (1)
    3. Insecurity in moving to the next step (1)

E. Materials
    1. When children complete tasks, there may be some disciplinary problems (1)
    2. Generate discipline problems (1)

F. Interpersonal relationships
    1. Children prefer being with their age group (1)
    2. Separation from classmates creates psychological problems (1)
    3. Older children may dominate (1)

G. Miscellany
    1. I see no disadvantage (8)
    2. Teacher difficulty in keeping up with the activities of different levels (3)
    3. I see no advantage (2)
    4. No comment (1)

- H. No response (30)

The respondents clearly identified the motivation factors as the most advantageous aspect of the interage grouping. There were mixed feelings regarding the advantages and disadvantages of interage grouping in respect to the individualization of instruction and the over-all learning situation.

II. Techniques of Individualization
  1. Advantages:
    A. Individualized instruction
      1. Children progress at their own rate (31)
      2. Children receive more individual attention (29)
      3. Meets the needs of the individual (13)
      4. The child can evaluate his own progress (3)
      5. Good for the slow child (2)
      6. There are opportunities to know each child (1)
      7. There is help with the child's immediate problem (1)
      8. Varied techniques used with each child (1)
      9. Each child has direct contact with the teacher (1)
    B. Learning principles and situation
      1. Good work at the board with small groups (1)
      2. Children did not waste time (1)
      3. The teacher's work was well-planned (1)
      4. Pupils feel free to ask for help (1)
      5. Decreases competitive grade-consciousness (1)
      6. Busy noise, with order and no confusion (1)
      7. Children are free to move about (1)
      8. Continuous progress (1)
      9. Pupils help other pupils (1)
      10. Calm atmosphere (1)
    C. Motivation
      1. Increased interest (5)
      2. Children are relaxed (4)
      3. Less pressure to keep up (4)
      4. Increased desire to learn (2)
      5. The child feels more secure (1)
      6. Reduces frustration (1)
      7. Fewer disciplinary problems (1)
    D. Independence of action
      1. Self-direction (15)
    E. Materials
      1. There is a variety of materials (2)
      2. Programed materials and machines, charts, etc., help meet the children's needs (1)
    F. Interpersonal relationships
      1. Good pupil-teacher relationships (3)
    G. Miscellany
      No responses
    H. No response (4)

2. Disadvantages:
    A. Individualized instruction
        1. Not enough time for individual attention (8)
        2. Individualized instruction is time-consuming (2)
        3. Too much repetition -- teachers telling different pupils the same thing (1)
        4. The sensitive child is frustrated by not being able to finish his work (1)
        5. The fast learner has to wait for the slow (1)
    B. Learning principles and situation
        1. Too little group interaction (10)
        2. Some children are idle (7)
        3. Need more teacher aides (6)
        4. Pupils waste time standing in lines (2)
        5. There is a need for alternate activities for children who finish early (1)
        6. Slower pupils do not learn from the faster (1)
        7. The slow pupil is distracted by the noise (1)
        8. May encourage cheating (1)
        9. Need time for group word study and other group skills (1)
        10. Less opportunity for teacher supervision (1)
    C. Motivation
        1. Not enough competition among pupils (2)
        2. Individualization might interfere with a child's desire to work in groups (1)
        3. Generates competition (1)
    D. Independence of action
        1. Pupils left to work on their own too much (1)
    B. Materials
        1. Inflexible programed materials (1)
        2. The materials are expensive (1)
    F. Interpersonal relationships
        No response
    G. Miscellany
        1. No disadvantages (5)
        2. I would have to adapt to the confusion (1)
        3. Child and parent concern over promotion (1)
    H. No response (35)

All but four of the respondents noted advantages in the individualization of instruction through the demonstrated techniques. A significant number, however, noted some disadvantages in the over-all learning situation. They seemed to feel a need for more group interaction and felt there was an insufficiency of staff to take care of all of the children in the time allotted.

III. Programed Materials
    1. Advantages:
        A. Individualized instruction
            1. Child can progress at his own rate and/or level (25)
            2. Materials are well-organized to fit individual needs (13)

        3. They individualize instruction (4)
        4. Materials accommodate a wide range of abilities and interests (2)
    B. Learning principles and situation
        1. Provides varied program (7)
        2. Promotes continuous progress (6)
        3. Informs child of daily progress (3)
        4. The child knows where to begin and what to expect (2)
        5. The child is helped in his weaker areas (2)
        6. Excellent drill work for recall (2)
        7. Helpful to the child who has been absent (2)
        8. Sequence of material promotes rapid progress (1)
        9. Helps the child fill in learning gaps (1)
        10. Teacher and pupils were familiar with the materials (1)
        11. The child doesn't know what grade level he's working on (1)
        12. Variety helps build vocabulary (1)
        13. Releases teacher time (1)
        14. Happy atmosphere (1)
    C. Motivation
        1. Suited to or fosters interest (12)
        2. Competes only with one's self (3)
        3. Motivating devices (2)
        4. Keeps all children busy and interested (2)
        5. Encourages the honor system (1)
        6. Provides opportunities for success (1)
        7. The child is challenged in his stronger areas (1)
        8. Challenges each child to achieve at his ability level (1)
        9. Children feel secure with the materials (1)
        10. Makes learning pleasurable (1)
    D. Independence of action
        1. Children become independent workers (5)
        2. Encourages self-discipline (3)
    E. Materials
        1. Materials observed were well-selected and arranged (4)
        2. Materials are available when needed (3)
        3. Plenty of materials available (2)
    F. Interpersonal relationships
        1. More pupil-teacher contact (1)
    G. Miscellany
        1. No disadvantages (2)
    H. No response (6)
2. Disadvantages:
    A. Individualized instruction
        1. Slow pupils waste time (2)
        2. Some children need more help with the materials (1)
        3. How does the teacher teach each child what he has missed? (1)

    4. The pupil may lose his identity (1)
    5. Difficult for the teacher to keep up with each child's program (1)
    6. The material is too advanced for some (1)
    7. The teacher doesn't get to know each child (1)

B. Learning principles and situation
    1. Reduces discussion (4)
    2. Is there time for group study and drill? (4)
    3. Pupils can determine the grade level upon which they are working from gradedness of the materials (2)
    4. Too many "built in" crutches (1)
    5. Are there any real exercises? (1)
    6. Material given may not correspond to what is needed (1)
    7. Few schools have enough space (1)
    8. The teacher gives information the materials cannot (1)
    9. Pupils didn't get enough help (1)
    10. Materials cannot replace the teacher in developing basic skills (1)

C. Motivation
    1. May become dull and lifeless to some (3)
    2. Materials fail to meet interest needs at times (1)
    3. Do they hold the interest of fast or slow pupils better? (1)
    4. Could be discouraging to the slow child (1)
    5. Motivation must be high for materials to be effective (1)

D. Independence of action
    1. Children are too much on their own resources in reading (1)
    2. Some finish early and don't know what to do next (1)

E. Materials
    1. Materials are expensive (3)
    2. Not enough variation (2)
    3. Inflexible (1)
    4. SRA materials tear easily (1)
    5. There would be disadvantages if only one kind of material was used (1)
    6. Materials are limited in subject areas other than reading (1)
    7. Not enough teacher-made materials for local needs (1)

F. Interpersonal relationships
    No responses

G. Miscellany
    1. Too much teacher time taken after school for checking the children's work (2)
    2. Difficult to grade (1)

H. No response (47)

The observers apparently were impressed with the advantages of using programed materials in meeting individual needs and in motivating the students. They rated the effects of these materials on the over-all learning situation as advantageous, but raised some questions regarding the nature of these materials.

IV. Team Teaching
  1. Advantages:
    A. Individualized instruction
      1. Care for individual differences (9)
      2. More time for individual help (8)
      3. Opportunities for observing individual pupils (1)
    B. Learning principles and situation
      1. Teachers share ideas and techniques (15)
      2. Utilizes teachers' assets (12)
      3. Classroom procedures are well-planned (10)
      4. Wider range of experiences for pupils (6)
      5. Can work more effectively with larger groups (3)
      6. The atmosphere is informal and pleasant (3)
      7. Unifies the program (2)
      8. Requires thorough planning (2)
      9. Teachers know what to do (2)
      10. Each teacher may become familiar with the problems of other teachers (2)
      11. Distributes teacher work loads (2)
      12. Each teacher is familiar with the entire program and can shift to other roles when necessary (2)
      13. Good teacher attitudes (2)
      14. Children can move from group to group as work is completed (2)
      15. Sound means of planning, initiating, implementing, and evaluating the learning process (1)
      16. Each teacher is aware of teaching goals (1)
      17. Provides for continuous progress (1)
      18. Allows time for variations in length of instructional periods (1)
      19. Pupils share ideas (1)
      20. Plenty of space (1)
    C. Motivation
      1. Teachers are motivated (1)
      2. Pupils are challenged (1)
    D. Independence of action
        No responses
    E. Materials
      1. Materials can be shared (4)
      2. Variety of materials (1)
    F. Interpersonal relationships
        No responses
    G. Miscellany
        No responses
    H. No response (7)

2. Disadvantages:
   A. Individualized instruction
      1. Pupils should be in small groups to get enough individual attention (2)
      2. No opportunities for pupils to learn from each other (2)
      3. Children need to be grouped more according to abilities (2)
      4. Do the pupils get enough individual attention? (1)
      5. Younger and less mature pupils may be confused (1)
      6. Some children depend too much on the teacher (1)
   B. Learning principles and situation
      1. Insufficient time for group planning (5)
      2. Confusion in the classroom (5)
      3. Inadequate space, materials, and staff in many schools (3)
      4. Teachers need more aides (2)
      5. Too expensive (2)
      6. Possible overlapping in presentation of material (1)
      7. Substitute teachers may not understand the program (1)
      8. Not all teachers are skilled enough (1)
      9. May curb creativity of team members (1)
      10. Need more teachers for such a large group (1)
      11. Seems to be nongrading, not team teaching (1)
      12. Teachers must have the right attitudes (1)
   C. Motivation
      No responses
   D. Independence of action
      No responses
   E. Materials
      No responses
   F. Interpersonal relationships
      1. Personality clashes among teachers may result (2)
      2. Weak teachers may lean too much on the strong ones (1)
      3. Requires high level cooperation among teachers (1)
      4. May cause jealousy among teachers, especially if the "master teacher" idea is used (1)
   G. Miscellany
      1. No disadvantages observed (5)
      2. Do not know (4)
      3. Discipline not as good (2)
   H. No response (46)

The team teaching aspect of the program evoked the greatest response of any in terms of the over-all learning situation. All but seven of the respondents saw advantages in team teaching. Some questions, however, were raised. These would be especially pertinent to staffs planning on pooling their particular talents in a team teaching approach.

In the entire evaluation of the observers, 22 of the 24 categories of responses were definitely supportive of the program. Only in the relationship of the interage grouping and techniques of individualized instruction to the over-all learning situation were more disadvantages noted than advantages. The Laboratory School is taking particular note of these areas as it continues the program in the 1966-67 school year.

CONCLUSIONS AND IMPLICATIONS

Performances on the reading and arithmetic sections of the CAT showed no significant change from pre- to posttesting. Any change that may have been observed, however, was not expected to be very great because of the short duration of the program. Further investigation of nongraded programs, whether demonstrational or experimental, should extend over a period sufficiently long to permit an achievement test to detect changes that might occur.

According to the data obtained from the pupil questionnaire, the general attitude of the children toward the over-all program was favorable, although the girls' attitude appeared to be somewhat more favorable than that of the boys'. Boys and girls expressed preference for play activities in which they were permitted to associate with members of their own sex. These results were hardly less than was expected from what has been known for some time about the attitudes of preadolescents toward members of their own and of the opposite sex. After deciding upon how much importance is to be placed upon these intersex attitudes and the extent to which they are to be changed or circumvented, teachers may attempt to determine attitudes expressed toward members of the opposite sex in specific play and work activities and to plan a program around the findings.

Girls liked the length of SRA stories more than did the boys. There was much more preference for longer stories on the part of the latter group.

Younger children more often than older ones preferred freedom to choose their activities, showed a more favorable attitude toward having more than one teacher in the room at any given time, and expressed a more favorable attitude toward the SRA reader. These observations may be explained in part by the longer experience of the older children with the graded school setting, although the Laboratory School has for a number of years been nongraded in many of its practices. The younger children may not have formed as strong habits based upon more traditional classroom management which represent safety by virtue of familiarity. The older children, on the other hand, preferred more often than younger children to progress at their own rate in reading and arithmetic, to proceed to another task when one is completed, and to decide upon the next step to be taken in a sequence. Perhaps the greater degree of independence generally achieved by older children contributed to expressions of these attitudes. It may be helpful to know how the attitudes of older children who began their school careers in a nongraded situation compare with those of older children who are shifted in the upper elementary grades to a nongraded program from a more traditional one. Moving from an earlier nongraded program to a traditional one in the upper grades may make other interesting and useful comparisons possible.

Teacher Questionnaire

The teachers' attitudes toward the program were generally very favorable. They were in agreement, however, on the need for more intensive use of consultants in planning, executing, and evaluating the continuous progress program. Published materials written by specialists in nongrading philosophy and practices were judged as the most useful resources available. The teachers suggested further that the services of subject matter specialists be enlisted also for most effective development of the nongraded program.

Teachers considered that the tools used for assessing achievement were well-chosen and served their purposes effectively. One teacher recommended that behaviors not measured by the instruments used should be evaluated. It was suggested that behaviors most relevant to teaching-learning processes be identified and, insofar as possible, measured for the purpose of further program development. The learner profile card was judged by the teachers as a useful and effective means of keeping records of pupil progress in the nongraded situation. Use of this device made possible the gathering of information about children which is not yet obtainable by standardized instruments. In this connection, it would be helpful for teachers to receive training in techniques of observing and recording important child behavior. Checklists could be devised which concentrate upon the behaviors pertinent to the nongraded situation.

Programed instructional materials were thought by the teachers to be uniquely capable of accomplishing certain educational objectives. There was general agreement that the materials must be used to supplement rather than to supplant other teaching techniques. Most effective use of the materials was considered to be in teaching basis skills and in drill work. There was limited usefulness in teaching understandings and allowing for creative expression. A review of the research literature and the design and conduct of experimental studies could reveal the circumstances under which programed materials are most efficient. Their effectiveness might be expected to depend on a number of factors, including characteristics of children and nature of the material being taught.

For the most part, teachers considered the composite arithmetic score (CAT) to be the most efficient single source of information for grouping children for learning mathematics. The teachers preferred combinations of several sources of information to be used as bases for grouping. A few of these possible combinations are suggested by the ranks assigned to the information sources listed in Item 62. There is a need for a test which assesses achievement in modern mathematics; and there are probably a number of variables which, when used in combination, would be more effective than any one variable in assigning pupils to groups for optimal arithmetic achievement.

Parent Questionnaire

Parents' judgments of their children's attitudes toward the program were generally good. Some of the 47 parents who responded to the questionnaire were able to make rather definite statements about their childrens' attitudes from comments the children made at home. Other parents had little or no basis for judgment because their children seldom said anything about school. When asked to rank the subjects and activities liked most and least as judged from remarks made by their children, parents ranked reading and methematics most frequently in first place; reading and music most frequently in second place; and Spanish, music and physical education most frequently in third place. Activities liked least were: mathematics in first place, physical education in second, and "tired of school in general" in third. In view of the possibility that attitudes toward various school activities are not homogeneously favorable or unfavorable, there is a need to examine pupil attitudes toward specific aspects of each of the activities.

The parents agreed with the teachers on the value of parent-teacher conferences. Individual conferences were ranked first, small-group conferences second, and large-group conferences last. The purposes of the conference seem to be the major determinant of the number of people involved. Discussion of problems shared by a number of people may make a small- or large-group conference desirable. As far as the parents' expressed attitude is concerned, there seems to be no substitute for individual parent conferences when a parent or teacher feels the need to discuss problems of an individual child.

Many more advantages than disadvantages of programed materials were mentioned by parents. Advantages included: 1) progress at own rate, 2) allowance for individual differences, 3) children seem to enjoy the materials, 4) immediate reinforcement of correct response, 5) independence of action, 6) opportunities to work with many varied materials, and 7) saves time for the teacher. Among the disadvantages most frequently mentioned were 1) younger children need more individual help, 2) material might become dull through repetitive use, 3) no immediate feedback, 4) varied quality of materials, and 5) teachers may not know how to use the materials to best advantage. Some of these comments apply equally well to other teaching procedures. Other comments, such as those dealing with reinforcement of responses, are inconsistent, which may be accounted for on the basis that some parents did not take note of one of the distinguishing features of programed materials.

As in the case of programed materials, more advantages than disadvantages were listed for team teaching. Included among the advantages were 1) utilization of teacher assets, 2) individualization of instruction, 3) broadens the child's education, 4) sharing of better prepared materials, 5) wider appeal to pupil interests, 6) harmonious staff relations required, 7) more adaptation required of the child, 8) child has more teachers to whom he can relate, and 9) provides multiple assessment of the child. Disadvantages most frequently listed were 1) personality difficulties among and domination on the part of some teachers, 2) time consumed in group planning, and 3) lack of space and materials in many schools.

Advantages of having children progress academically at their own rate included 1) the child does not have to wait for others to catch up, 2) opportunities for both fast- and slow-learners to experience success, 3) reduces pressure to produce, and 4) helps prevent boredom. Disadvantages were 1) the children may not learn as thoroughly as desired, 2) competition is needed, 3) lack of group interaction, and 4) may not advance as fast physically, socially, and emotionally as academically.

Grouping children according to interests, abilities, and social maturity rather than by chronological age was considered advantageous in the following ways: 1) uniqueness of the child is recognized, 2) learn more, 3) assume more responsibility, 4) motivated by being in interest groups, and 5) reduce discipline problems. Disadvantages included 1) slow child may feel inferior; fast child, superior; 2) need to adapt to differences among people, 3) some competition needed, 4) child may be pushed by parents; stigma attached to being in the low group, 5) child may lose interest, and 6) difficult to set up grouping criteria.

Observer Reactions

Advantages of interage grouping most frequently recorded by professional educators who observed the program in action were 1) children progress at their own rate, 2) good social and working situation, 3) stimulates interest, 4) reduced awareness of age and grade differences, 5) supports feelings of security, 6) fosters relaxed learning atmosphere, 7) little competition among pupils, and 8) children take the initiative in the learning situation. Responses most often made to the question of disadvantages were 1) difficulty in teaching children of such varied physical and emotional maturity and 2) "I see no disadvantages." Many of the comments made by observers may very well serve as points of departure for more experimental examination of advantages and disadvantages of interage grouping. Results obtained thereby coupled with those already reported in the literature in evaluation of ability grouping may be utilized in designing more effective nongraded programs.

In connection with techniques of individualization, advantages identified included 1) children receive more individual attention, 2) children progress at their own rate, 3) less pressure to keep up with other children, 4) increased interest, and 5) independence of action. Disadvantages were 1) there is not enough time for individual attention, 2) some children are idle, 3) there is need for more teacher aides, and 4) too little group interaction. Thirty-eight of the observers did not respond at all to this part of Item II. It is not known whether failure to record a response meant that no disadvantages were seen, that the observers were being kind, or that there was some other reason for not responding. In longer and more extensive studies, it may be desirable to interview as many as possible of the people participating in order to get more information and to amplify and clarify responses. Comment may be gotten in interviews from those who did not respond to questionnaire items.

Among advantages of programed materials suggested by observers were 1) each child can progress at his own rate and/or level, 2) provides varied programs, 3) promotes continuous progress, 4) stimulates interest, and 5) encourages initiative on the part of the children. Disadvantages were 1) slow pupils waste time, 2) do not permit enough group discussion and drill exercises, 3) may become dull and lifeless, and 4) the materials are expensive. Again, studies designed to test the applicability of these judgments should be conducted and the results used to reduce the disadvantageous properties of programed materials in a nongraded setting.

Team teaching was considered as possessing the following advantages by the professional educators: 1) provides for individual differences, 2) more time for individual help, 3) teachers share ideas, techniques, and materials, 4) utilizes teachers' strengths, and 5) provides wider ranges of pupil experience. Disadvantages included 1) insufficient time for group planning, 2) lack of classroom order, and 3) inadequate space, staff, and materials in many schools. Forty-six of the observers did not list any disadvantages; five reported that they saw no disadvantages; and four said they did not know.

Consultant's Evaluation

Dr. Frank R. Dufay spent two days in the Laboratory School. He stated that the program, as he observed it, was meeting the goal of fostering individualized programs which bring each pupil self-fulfillment to a large degree. It was unfortunate that Dr. Dufay was unable to observe early in the program. It probably would have been better to have had additional consultants involved in observations and evaluations.

SUMMARY

The Troy State College Laboratory School staff, consisting of six teachers, a director, and a librarian, spent approximately two months in studying the feasibility of offering a nine-week summer school organized on a nongraded, team teaching basis during the summer of 1966. Their review of research and meetings with several consultants convinced them that such a program would be useful in further determining the school program for the 1966-67 school year. Subsequently, they met for a total of over 150 hours during the ensuing eight months period to work out plans for the summer session.

It was decided to invite educators from approximately thirty-five public school systems to observe the summer session of the Laboratory School program. The major purpose of the program, therefore, was to serve as a model for educators who were interested in the processes of developing a nongraded elementary school program.

The staff carefully oriented the parents and students of the Laboratory School to the planned program. This activity was extremely important and resulted in a very smooth adjustment to the new approach. It also served to assist the staff members themselves to better understand the many implications related to the program.

The school was completely nongraded with 80 children, ages 6 to 12, involved with three teachers. In addition, a separate group of 20 five-year-olds were led by one teacher. Some of these children participated in activities with the older group as the summer progressed.

Emphasis was placed on reading and mathematics. Liberal use of programed materials was made. Questionnaire and interview responses indicated that pupils, teachers, and parents were quite pleased with the program. As a result, the Laboratory School is continuing the nongraded approach and expanding it to include social studies and music in the 1966-67 year. All areas will probably be nongraded by the 1967-68 year.

Additional activities such as Spanish, rhythms, listening skills, and playground games involving the combined participation of boys and girls were also included. Again, the pupils, teachers, and parents were well pleased with the program excepting some apparent reservations on the part of the boys in playing with the girls.

Questionnaires were administered to pupils, teachers, parents, and observers. The over-all ratings of each group strongly supported the program.

Achievement tests were administered in the reading and mathematics areas at the beginning and end of the summer. The results, as expected, were inconclusive. The nine-week period apparently was too brief. There was also a rather strong feeling on the part of the teachers that new standardized tests are needed to measure achievement in mathematics as it is now being taught.

The impact of this summer demonstration may be measured in part by the invitation of four nearby school systems to Laboratory School staff members to help them in moving toward a non-graded or team teaching type of program.

The individualization of instruction which permitted students to read at varying rates of speed was definitely enhanced by the use of programed materials and large blocks of time spent in individual studies.

The staff found that a flexible attitude toward the inflexible walls of their typical 1930 style building was helpful. Most classrooms were used and the auditorium served as the major focal area of the program.

The teachers found the needed planning and coordinating on their part was quite time consuming. They also noted an impressive need of materials to meet student demands. These two factors are probably the most crucial for school planning on developing a similar program. The advice of consultants apparently is quite helpful, especially in the early stages.

Finally, it should be emphasized that a faculty should be encouraged rather than pushed into a comprehensive program change. The change should be evolutionary rather than revolutionary -- change moves on a broken front.

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APPENDIX A

Enrollment Application
Laboratory School
Troy State College
Troy, Alabama
January, 1966

Interesting and exciting things will be occurring at the Laboratory School during the summer months. It will be the staff's purpose to work with children in the areas of reading, modern math Spanish, music and speech. Much emphasis will be placed on individualized instruction. Each child will begin where he is in the learning process and will be assisted by the teachers through the use of programmed material and audio-visual aids to progress at his own speed toward higher levels of achievement.

In order to better meet the needs of your child, the staff will work as a team and your child will have the benefit of the knowledge and skills of four teachers who will make their contributions to your child's progress.

Much planning is necessary on the part of the staff in preparation for what the staff feels is an exciting and worthwhile adventure for the children. We must have a list of the children who plan to attend our summer school as soon as possible. If your child will be 6 on or before October 2 or has been in grades 1-6 during the 1965-66 school year, he is eligible to attend summer school.

Please complete the application below and return to Mrs. Foy I. Cummings, Laboratory School, Troy State College as soon as possible.

The children will be in school from 8 a.m. until 12 noon. A materials fee of $3.00 will be charged. The materials fee should be included with the application. Your money will be refunded if we are notified before May 21, 1966 that your child cannot attend.

- -

Date ____________________

I wish to enroll ____

for the summer quarter, 1966.

His
Her birthday (month) __________ day ____ year ______.

He
She was in the ______ grade during the 1965-1966 school year.

Address ____________________ Telephone ____________________

____
Parent or guardian

APPENDIX B

Dear Superintendents, Principals and Supervisors:

The Troy State College Laboratory School will be organized on a nongraded basis during the summer of 1966 utilizing team teaching and programmed materials in reading and contemporary mathematics.

We believe that the planned experiences will be beneficial to the children ages 5-12 and that they should also prove to be of help to in-service school personnel who might be interested in observing an ungraded school in operation.

You and the teachers in your school system are cordially invited to observe in the Laboratory School during the summer session.

It will be necessary for you to schedule your visits in order that you can profit most from your observation.

Please complete the attached form and return it to Mrs. Foy I. Cummings, Director Laboratory School, Troy State College, Troy, Alabama.

The following information should aid you in making plans to visit the Laboratory School.

Dates open to observers: June 20 - August 10

Opening hour of school day: 8 a.m.

Closing hour of school day: 12 noon

Conferences with teachers: 1:30 p.m. (By request)

Place: Laboratory School, Troy State College,
Troy, Alabama
Telephone 566-3000, Ext. 224

We are looking forward to seeing you this summer.

Sincerely yours,

Foy I. Cummings

Foy I. Cummings, Director
Laboratory School

f

APPENDIX C

Laboratory School
Troy State College
Troy, Alabama

Observation Request

I would like to observe on the following date. 1. ______________________
(List 3 possible dates in order of preference.) 2. ______________________
3. ______________________

There will be ________ observing with me.

Signed: ______________________
Position: ______________________
Address: ______________________
Telephone: ______________________

You will be notified of the assigned date.

APPENDIX D

PUPIL QUESTIONNAIRE

DIRECTIONS: Listen very carefully. I am going to read out loud each of the sentences that you see in the booklet I have just given you. When I finish reading a sentence, I will wait a little while so you can think about what it says. I will do this after each sentence. Right after I have finished reading a sentence, decide whether it tells how you really feel. If it does tell how you really feel, draw a circle around the word "Yes." If it does not, draw a circle around the word "No." Don't take too much time thinking about what the sentences say.

Let's begin. (TO THE TEACHER: Identify each statement by number before reading it.)

1. If you come back to school next summer, would you like school to be like it was this summer?

   Yes No

2. Do you like to go right on to something new when you have finished what you were doing?

   Yes No

3. Do you like for the teacher to let you choose things to do?

   Yes No

4. Do you have trouble deciding what to do when you have more than one teacher in the room?

   Yes No

5. Do you have trouble starting your work once you have decided what to do?

   Yes No

6. Do you like to have others help you do things that you don't know how to do?

   Yes No

7. Do you like to play games with girls?

Yes No

8. Do you like to do things in school even when other people aren't doing them?

Yes No

9. Do you like the length of the stories in the SRA stories?

Yes No

10. Do you like to have more than one teacher in the room at the same time?

Yes No

11. Do you have trouble deciding what to do next when you are working in mathematics?

Yes No

12. When you come back to school this fall, would you like for reading to be like it was this summer?

Yes No

13. Have you enjoyed school this summer?

Yes No

14. Do you like for the teacher to tell you how to do almost everything?

Yes No

15. Do you think you have learned many things in school this summer?

Yes No

16. Do you like to work in small groups at times?

Yes No

17. Do you like to go to different teachers to do different things?

Yes No

18. Do you like to help others do things that you already know how to do?

Yes No

19. Do you like to be in class with others who are older than you are?

Yes No

20. Do you think you would like to do the same work in math that everybody else is doing and at the same time they are doing it?

Yes No

21. Do you like the SRA reading?

Yes No

22. Do you have trouble deciding what to do next when you are in home base?

Yes No

23. Do you like to go ahead with your work without having to wait for others to catch up?

Yes No

24. When you come back to school this fall, would you like for math to be like it was this summer?

Yes No

25. Do you like to keep working on what you are doing even after you have learned it?

Yes No

26. Do you like for the teacher to tell you what to do most of the time?

Yes No

27. Do you get enough help from the teachers when there is more than one teacher in the room?

Yes No

28. Do you like to work in big groups at times?

Yes No

29. Do you like to go to different rooms to do different things?

Yes No

30. Do you like to play games with boys?

Yes No

31. Do you like to be in class with others who are younger than you are?

Yes No

32. Do you think you would like to do the same work in reading that everybody else is doing and at the same time they are doing it?

Yes No

33. Do you like to have more than one teacher teach you the same things?

Yes No

34. Do you have trouble deciding what to do next when you are working in reading lab?

Yes No

APPENDIX E

TEACHER QUESTIONNAIRE

The purpose of the items contained in this questionnaire is to obtain your evaluation of selected aspects of the continuous progress program offered this summer at the Troy State College Laboratory School. Read each item carefully and, on the basis of the experiences you have had this summer as well as your general and specific knowledge of child behavior and good teaching-learning procedure, respond in terms of your genuine feelings toward that aspect of the program dealt with in the item.

Many of the items may be responded to by simply marking an "X" on a line over one number in a series of numbers ranging from "-3" to "+3." The numbers are used to indicate the degree to which a goal was reached, the effectiveness of a procedure or kind of materials, the approximate frequency of occurrence of some behavior, or the degree of favorableness of unfavorableness with which you view some part of the program. A "-3" and a "+3" indicate extreme degrees of whatever is contained in an item, the former referring to an extremely negative degree (absence of near absence, unfavorable, ineffective) and the latter an extremely positive degree. A "-2" or a "+2" indicates an intermediate degree, whereas a "-1" or a "+1" designates a low degree. A "0" (zero) may designate "not observed." If you wish to elaborate upon or qualify your response to any of these items, write in the margin near the item.

Other items require more elaborate responses. In these, write in the spaces provided whatever you consider appropriate and important that is pertinent to item content. If more space is needed, write on the back of the questionnaire, indicating the item referred to by its number. Under "Remarks," on the last page of the questionnaire, make whatever comment you wish about any aspect of the summer program that may or may not be covered by the questionnaire items.

1. To what extent did test data succeed in measuring organizational criteria of grouping for learning in mathematics?

   -3 -2 -1 0 1 2 3

2. To what extent did observational data contribute to effective group organization for learning in mathematics?

   -3 -2 -1 0 1 2 3

3. To what extent did test data succeed in measuring organizational criteria of grouping for learning in reading?

   -3 -2 -1 0 1 2 3

4. To what extent did observational data contribute to effective group organization for learning in reading?

   -3 -2 -1 0 1 2 3

5. How valid were the criteria used in grouping for learning in reading?

   -3 -2 -1 0 1 2 3

6. How valid were the criteria used in grouping for learning in mathematics?

   -3 -2 -1 0 1 2 3

7. Were the criteria used the most relevant ones for effective grouping for teaching mathematics in the nongraded situation?

   -3 -2 -1 0 1 2 3

8. Were the criteria used the most relevant ones for effective grouping for teaching reading in the nongraded situation?

   -3 -2 -1 0 1 2 3

9. To what extent do the children persist in an activity until it is completed?

-3 -2 -1 0 1 2 3

10. To what extent do children accept interage grouping?

-3 -2 -1 0 1 2 3

11. How much initiative is taken by children to help other children?

-3 -2 -1 0 1 2 3

12. To what degree has team teaching contributed to effective development of learners' reading skills and understandings?

-3 -2 -1 0 1 2 3

13. How effective were the California Achievement Tests in evaluating learner progress in mathematics in the nongrades situation?

-3 -2 -1 0 1 2 3

14. In general, to what extent has there been improvement in social relations among the children?

-3 -2 -1 0 1 2 3

15. How often have there been evidences of difficulty in making friends among the children?

-3 -2 -1 0 1 2 3

16. Were consultants used to best advantage in the accomplishment of nongrading?

-3 -2 -1 0 1 2 3

17. Do the children have difficulty keeping friends?

-3 -2 -1 0 1 2 3

18. Do the children often prefer to play with older children?

-3 -2 -1 0 1 2 3

19. How often do the children show signs of restlessness in school?

-3 -2 -1 0 1 2 3

20. How often do children distract other children from their work?

-3 -2 -1 0 1 2 3

21. To what extent do children wait for or seek teacher assistance in initiating activities?

-3 -2 -1 0 1 2 3

22. To what extent do children accept intersex grouping?

-3 -2 -1 0 1 2 3

23. Do parent conferences contribute to improved management of the child in his learning environment?

-3 -2 -1 0 1 2 3

24. Has the learner profile card contributed in any way to effective record keeping necessary in a nongraded situation?

-3 -2 -1 0 1 2 3

25. How effective were the California Achievement Tests in evaluating reading in the nongraded situation?

-3 -2 -1 0 1 2 3

26. How often have there been expressions of aggression or hostility among the children?

-3 -2 -1 0 1 2 3

27. Have parent conferences proven of value in making the transition from the graded to the nongraded situation?

-3 -2 -1 0 1 2 3

28. How often do the children manifest evidences of selfishness?

-3 -2 -1 0 1 2 3

29. How often do the children manifest evidences of dishonesty?

-3 -2 -1 0 1 2 3

30. Do the children often show signs of boredom in school?

-3 -2 -1 0 1 2 3

31. To what extent do the children take the initiative in deciding what kind of acitvity to undertake next after completing a task?

-3 -2 -1 0 1 2 3

32. To what extent do the children participate in activities with a minimum of step-by-step instruction from the teacher?

-3 -2 -1 0 1 2 3

33. How receptive are the children to receiving help from other children?

-3 -2 -1 0 1 2 3

34. Has team teaching contributed effectively to the determination of developmental sequences in the learners' mathematical concepts?

-3 -2 -1 0 1 2 3

35. Has the learner contract card contributed in any way to effective record keeping in a nongraded situation?

-3 -2 -1 0 1 2 3

36. How effective was the sociometric device in indicating change in social status of children in the nongraded situation?

-3 -2 -1 0 1 2 3

37. How often have children shown themselves to be poor losers?

-3 -2 -1 0 1 2 3

38. Do the children often prefer to play with younger children?

-3 -2 -1 0 1 2 3

39. How often do the children express dislike for school?

-3 -2 -1 0 1 2 3

40. Do the children often have difficulty expressing themselves orally in shcool?

-3 -2 -1 0 1 2 3

41. Rank the following in descending order of effectiveness in their contribution to improved management of the child in his learning environment. Place the number "1" in the space to the left of the letter designating the most effective, and so on, until all have been ranked.

_____a. Individual parent conference

_____b. Small group parent conference

_____c. Large group parent conference

42. Would you suggest fewer or more criteria to be used in effective grouping for learning in mathematics?

Fewer_______ More______

a. If fewer, which of the criteria used would you delete?

1)____

2)____

3)____

b. If more, what criteria would you add?

1)____

2)____

3)____

43. What advantages do individual parent conferences have over small and large group conferences?

a.____

____

b.____

____

c.____

____

44. In what ways, if any, have parent conferences contributed to effective transition from the graded to the nongraded situation?

a.____

____

b.____

____

c.____

____

45. In what ways were consultants most helpful in the accomplishment of nongrading?

a.____

____

b.____

____

c.____

____

46. What changes would you recommend in the record-keeping process in a nongraded situation?

a.____

____

b.____

____

c.____

____

47. What advantages do small group parent conferences have over individual and large group conferences?

a.____

b.____

c.____

48. In what ways were consultants least helpful in accomplishing nongrading?

a.____

b.____

c.____

49. In what ways has the learner profile card contributed to effective record keeping in a nongraded situation?

a.____

b.____

c.____

50. What measures of achievement would you add in the future to those used in the nongraded situation this summer?

a.______________________________

____

b.______________________________

____

c.______________________________

____

51. What advantages do large group parent conferences have over individual and small group conferences?

a.______________________________

____

b.______________________________

____

c.______________________________

____

52. What consultative services would you add in the future to those utilized this summer in designing and executing a nongraded program?

a.______________________________

____

b.______________________________

____

c.______________________________

____

53. In what ways has the learner contract card contributed to effective record keeping in a nongraded situation?

a.____

____

b.____

____

c.____

____

54. What advantages do programmed materials have over the more traditional procedures in teaching mathematics?

a.____

____

b.____

____

c.____

____

55. What disadvantages are there in using programmed materials in teaching mathematics?

a.____

____

b.____

____

c.____

____

56. What advantages do programmed materials have over the more traditional procedures in teaching reading?

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

57. What disadvantages are there in using programmed materials in teaching reading?

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

58. In descending order of effectiveness, list the mathematical skills that lend themselves most readily in the teaching-learning process to effective use of programmed materials.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

59. In descending order of ineffectiveness, list the mathematical skills that lend themselves least readily in the teaching-learning process to effective use of programmed materials.

a.____

b.____

c.____

d.____

60. In descending order of effectiveness, list the reading skills that lend themselves most readily in the teaching-learning process to effective use of programmed materials.

a.____

b.____

c.____

d.____

61. In descending order of ineffectiveness, list the reading skills that lend themselves least readily in the teaching-learning process to effective use of programmed materials.

a.____

b.____

c.____

d.____

62. In the use of test and observational data in grouping children for effective learning in mathematics, arrange the following in descending order of importance by assigning the number "1" to the most important, the number "2" to the next most important, and so on, until all of them have been ranked in importance. (Record numbers in spaces to the left of the letters.)

_____a. Arithmetic Computation score

_____b. Arithmetic Reasoning score

_____c. Composite Arithmetic score

_____d. Teacher judgment

_____e. General intelligence

_____f. Sociometric data

63. In your opinion, to what extent have programmed materials facilitated pupil learning in mathematics?

-3 -2 -1 0 1 2 3

64. In your opinion, to what extent have programmed materials facilitated pupil learning in reading?

-3 -2 -1 0 1 2 3

Remarks: ____

APPENDIX F

PARENT QUESTIONNAIRE

DIRECTIONS: The purpose of the questions below is to find out how you and your child feel about certain aspects of the nongraded program offered at the Troy State College Laboratory School this summer. Read each of the questions carefully and, on the basis of your observation of your child's remarks and behavior as well as your own observations of the program in action, try to answer the question in terms of how you really feel. If you do not have enough information to answer a question, then go to the next. It is important, however, that you respond to as many as you possibly can.

If your or your child's attitude or evaluation is favorable, put a check mark in the space to the right of the word "Favorable;" if unfavorable, then check the word "Unfavorable." If you wish to make any additional comment about any part of the nongraded program relating to a question (or about the question itself), feel free to write in the margins near the question. If there is insufficient space, then write on the back of the questionnaire, identifying the item by number.

Additional space is provided under "Remarks" for you to comment on any part of the program that you may wish to evaluate, especially those parts not dealt with in the questions. You may also wish to make suggestions as to how you think the nongraded program might be improved.

1. In your opinion, is your child's general reaction to school this summer favorable or unfavorable?

   Favorable _____ Unfavorable _____

2. Is your child's general reaction to the summer mathematics program favorable or unfavorable?

   Favorable _____ Unfavorable _____

3. Is your child's general reaction to the summer reading program favorable or unfavorable?

   Favorable _____ Unfavorable _____

4. What is your child's attitude toward the use of programmed materials in mathematics?

Favorable _____ Unfavorable _____

5. What is your child's attitude toward the use of SRA reading materials?

Favorable _____ Unfavorable _____

6. Is your child's attitude favorable or unfavorable toward having more than one teacher in the room at a time?

Favorable _____ Unfavorable _____

7. Is your child's attitude favorable or unfavorable toward having younger children in the room?

Favorable _____ Unfavorable _____

8. What is your child's reaction to having older children in the room?

Favorable _____ Unfavorable _____

9. What is your child's reaction to his being able to progress at his own rate in reading without having to wait for others to catch up?

Favorable _____ Unfavorable _____

10. What is your child's attitude toward being allowed to progress at his own rate in mathematics?

Favorable _____ Unfavorable _____

11. How does your child feel about going to different teachers to learn different things?

Favorable _____ Unfavorable _____

12. What is your child's attitude toward being allowed to help decide what he does in school and how he does it?

Favorable _____ Unfavorable _____

13. How does your child feel about working in a room with large groups of children?

Favorable _____ Unfavorable _____

14. What is your child's attitude toward going to different rooms for different activities?

Favorable _____ Unfavorable _____

15. How does your child feel about working with children of the opposite sex?

Favorable _____ Unfavorable _____

16. How does your child feel about playing with children of the opposite sex?

Favorable _____ Unfavorable _____

17. Do you consider teacher conferences with individual parents useful in trying to meet the needs of your child?

Yes _____ No _____

18. Do you consider teacher conferences with small groups of parents useful in trying to meet the needs of your child?

Yes _____ No _____

19. Do you consider teacher conferences with large groups of parents useful in trying to meet the needs of your child?

Yes _____ No _____

20. Do you feel that grouping children according to interests and special abilities as well as chronological age is more effective educationally than grouping them by chronological age alone?

Yes _____ No _____

21. Do you think that programmed instructional materials are effective in helping children learn?

Yes _____ No _____

22. What are some of the educational advantages and disadvantages of using programmed instructional materials in the school?

Advantages:

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

Disadvantages:

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

23. What are some of the educational advantages and disadvantages of team teaching?

Advantages:

a. ______________________________

____

b. ____

____

c. ____

____

Disadvantages:

a. ____

____

b. ____

____

c. ____

____

24. What are some of the advantages and disadvantages of allowing your child to move through a series of educational experiences at his own rate?

Advantages:

a. ____

____

b. ____

____

c. ____

____

Disadvantages:

a. ____

____

b. ______________________________

____

c. ______________________________

____

25. What are some of the advantages and disadvantages of grouping children according to interests, special abilities, and social maturity rather than chronological age?

Advantages:

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

Disadvantages:

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

26. What does your child like most--and what does he or she like least--about school this summer?

Likes most:

a. ____________________

b. ____________________

c. ____________________

d. ____________________

Likes least:

a. ____________________

b. ____________________

c. ____________________

d. ____________________

REMARKS: ____________________

APPENDIX G

Reaction to Observation
of
Continuous Progress Elementary School
Troy State College Laboratory School

Date ____________________

Please react to the following areas of emphasis being demonstrated in the continuous progress elementary school. Indicate the advantages and disadvantages of each technique observed.

I. Interage Grouping:

1. Advantages ____

____

____

2. Disadvantages ____

____

____

II. Techniques of Individualization:

1. Advantages ____

____

____

2. Disadvantages: ____

____

____

III. Programmed Materials:

1. Advantages: ____

____

____

2. Disadvantages ____

____

____

IV. Team Teaching:

1. Advantages: ______________________________

____

____

2. Disadvantages: ______________________________

____

____

OE 6000 (9-65)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON 25, D.C.

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5. TITLE
DEMONSTRATION OF A NONGRADED PLAN OF AN ELEMENTARY SCHOOL, UTILIZING TEAM TEACHING AND PROGRAMED INSTRUCTION TO FACILITATE LEARNING IN READING AND MATHEMATICS

6. AUTHOR(S) Lewis, William Paul

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15. ABSTRACT *(250 words max.)*

The Troy State College Laboratory School, Troy, Alabama, demonstrated the techniques involved in moving from a traditional graded elementary school to a nongraded school employing team teaching and programed instruction in the areas of reading and mathematics. Professional teachers and administrators, as well as pupils and parents, were involved in a comprehensive evaluation of the nongraded program as it was presented in a nine weeks session the summer of 1966.

Six teachers, one librarian, one school director, and 100 students, ages 5-12, were involved.

Consultants included Dr. Frank Dufay, Plainview, New York; Dr. Robert Anderson, Harvard University; Dr. Willard Goslin, George Peabody College for Teachers; Dr. Laura Newell, Auburn University.

Four aspects of the program were emphasized in the evaluation: interage grouping, techniques of individualization, programed materials, and team teaching.

The evaluations were favorable. The Laboratory School subsequently adopted the nongraded approach for the 1966-67 school year.

16. RETRIEVAL TERMS *(Continue on reverse)*

Ungraded, nongraded, team teaching, programed materials, demonstrations, elementary school organization

17. IDENTIFIERS

Craig Reader, The Greater Cleveland Mathematics Program, SRA reading programs, Hayes Modern Mathematics book, Troy State College